

Q2/2025

GLOBAL CARBON CAPTURE, UTILIZATION AND STORAGE MARKET REVIEW



Introduction

The second quarter of 2025 showcased a notable development in the global carbon capture, utilisation and storage (CCUS) sector, underpinned by robust government support, substantial inflows of investment and technological innovations.

Europe continued to lead the way, boosted by the UK government's confirmation of £200 million of funding for the Acorn CCS project, as well as a £2.5 billion financial package for Eni's Liverpool Bay initiative, designed to capture and store 4.5 million tonnes of CO₂ annually. During the quarter, substantial progress was made on infrastructure projects, including Equinor's CO₂ Highway Europe pipeline, which has an annual capacity of 30 million tonnes, and the expansion of the Northern Lights project in Norway. These developments represented tangible progress in establishing a complete CCS value chain.

In North America, project financing and corporate offtake agreements signalled growing commercial viability. JPMorgan signed landmark long-term CO₂ removal deals, Deep Sky received provincial funding for a DAC hub in Canada, and a new \$500 million joint venture emerged between BKV and CIP. However, the cancellation of \$3.7 billion in DOE grants, including major CCS projects, cast uncertainty over future U.S. federal support. Asia & Oceania saw major strides in marine-based CCS and cross-border collaboration. BP's Tangguh UCC project advanced in Indonesia with a target of storing 15 million tonnes of CO₂, South Korea launched a full-scale CCU demonstration through LG Chem and POSCO and Japan and Indonesia initiated joint storage feasibility studies. Seatrion and Solvang expanded their partnership for onboard carbon capture retrofits, reinforcing maritime decarbonization efforts.

Despite these positive developments, the CCUS landscape showed clear signs of market consolidation. Aker's acquisition of a 20% stake in SLB Capturi and simultaneous liquidation of its Aker Carbon Capture division illustrated strategic realignments responding to competitive pressures. The influx of institutional investments, highlighted by BlackRock's Global Infrastructure Partners securing a controlling interest in Eni's CCS subsidiary, underscored the intensifying investor focus on carbon capture infrastructure.

Overall, Q2 2025 saw record-scale infrastructure commitments and cross-border partnerships across all major CCUS regions. Strategic investments and joint ventures accelerated project deployment, particularly in Europe and North America. At the same time, government support and market consolidation shaped a more mature and focused global CCUS landscape.

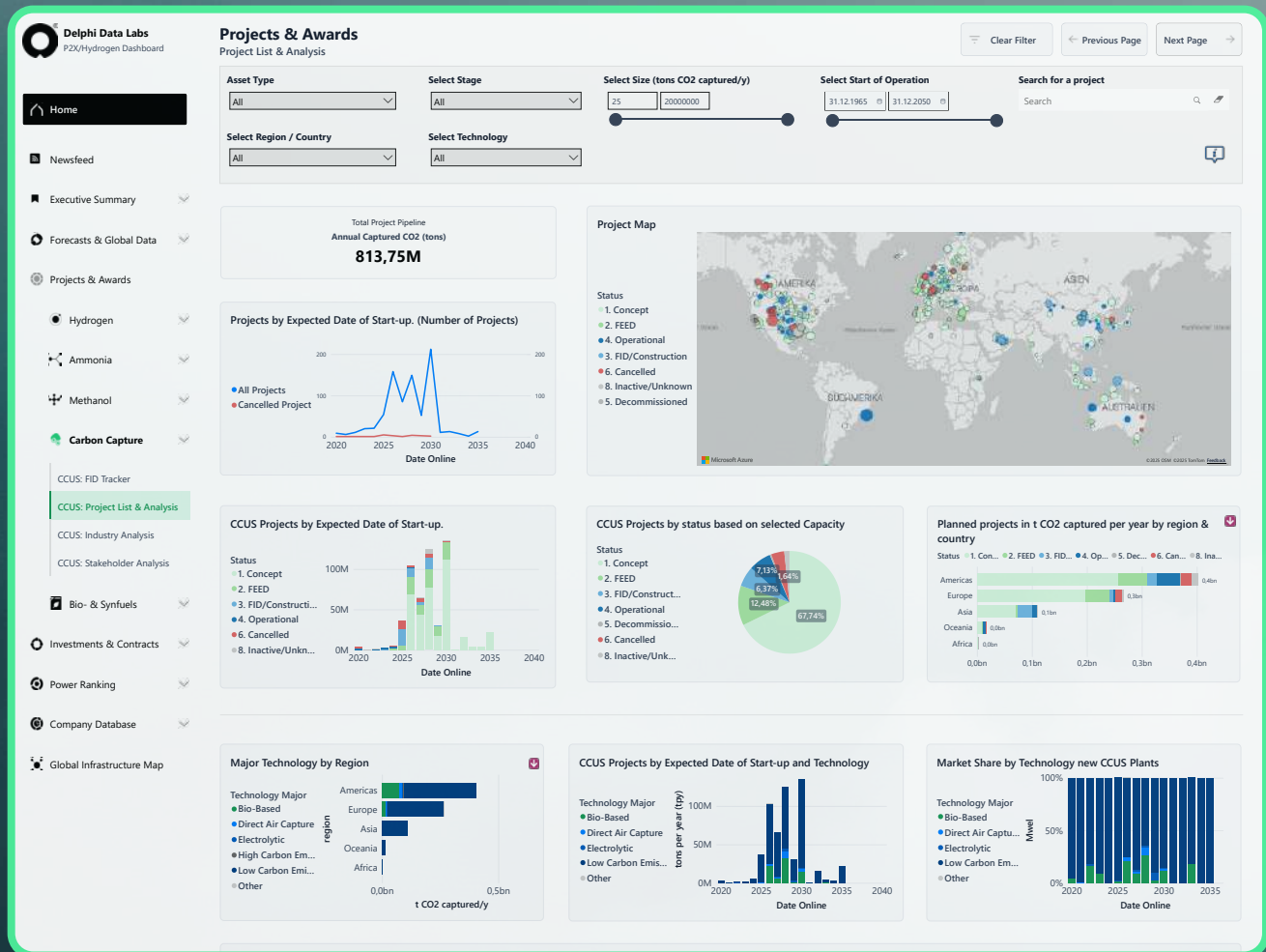
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Project Updates

Europe & Africa

- / **Acorn Project:** The UK government has confirmed a £200 million injection into the Acorn CCS project. The project would use redundant natural gas pipelines to transport CO₂ to offshore storage at St Fergus.
- / **Aquaterra Energy:** Aquaterra Energy has won two landmark contracts for the Northern Endurance Partnership (NEP), the UK's first permitted offshore carbon storage project. It will initially support three carbon capture sites in Teesside and aims to store 4 million tonnes of CO₂ annually.
- / **Balfour Beatty, bp & Equinor:** Balfour Beatty was awarded an £833M contract to build the UK's first gas-fired power plant with CCS as part of the Net Zero Teesside project. The plant will capture up to 2 million tonnes of CO₂ annually and generate 742 MW of low-carbon power.
- / **Berge Bulk:** The company has begun piloting an onboard carbon capture system to cut emissions from maritime transport. The system is designed to capture up to 15 tonnes of CO₂ per day, representing a potential 30 percent reduction in emissions during operations.
- / **Carbfix:** Inaugurated a CO₂ mineralisation site at Hellisheiði Geothermal Plant in Iceland. Supported by a €3.9 million EU grant, it solidifies CO₂ in basalt rock for permanent storage.
- / **Carbon Clean:** The British company has reached commercial scale with its modular CycloneCC reactors, expected to capture up to 100,000 tCO₂/year, and successfully completed testing of the world's largest Rotating Packed Bed system, capable of capturing 285 tCO₂/day. Both technologies are now ready for deployment to support large-scale industrial decarbonisation.
- / **Encyclis:** Started up a pilot capture unit at its energy-from-waste facility in Bedfordshire, UK. The 16-month test will inform deployment at the Protos ERF site, which plans to cut 370,000 tonnes of CO₂ annually.
- / **Eni:** Eni and the UK Government have reached financial close on the Liverpool Bay CCS project — a £2.5 billion financing package for CO₂ transport and storage infrastructure, backed by up to £21.7 billion in government support over 25 years. The initiative will convert offshore platforms and pipelines to store 4.5 Mt CO₂ annually.
- / **Equinor:** Equinor's Smeaheia project forms part of the proposed CO₂ Highway Europe scheme, a 1,000-kilometre pipeline from Belgium to the Norwegian Continental Shelf with the capacity to transport 30 million tonnes of European CO₂ per annum. Equinor's guidance is that it could be operational by around 2030.
- / **Equinor, Shell, TotalEnergies:** The Northern Lights project expanded its storage capacity to 5 million



tonnes CO₂/year, supported by EU funding. It is the transport and storage arm of Norway's Longship initiative and will start receiving CO₂ from industrial emitters soon.

- / **Expro:** Expro will test two wells at the UK's East Coast Cluster, which could store up to 450 million tonnes of CO₂. The work will be executed by local teams in Aberdeen and supported by domestic suppliers.
- / **FDE & Cemex:** Partnered to deploy FDE's Cryo Pur system at Cemex cement plants in France, starting with a 4,000 Nm³/h pilot. The system uses electricity and recycles CO₂ into the process, with plans to scale to 450,000 tonnes of CO₂/year per site across 18 plants.
- / **Familia Torres:** The Spanish winery is testing a MOF-based carbon capture system to recover CO₂ from fermentation and reuse it directly on site. This approach reduces emissions from fermentation processes and is likely to attract growing interest from sectors like brewing and winemaking.
- / **Heracles:** Broke ground on a €380 million CCS project Olympus at its Milaki cement plant in Greece, with an annual capture target of 1 million tonnes. The facility is expected to achieve net-zero emissions by 2029.
- / **Inter Terminals Sweden:** Began front-end engineering for a CO₂ storage and shipping hub in the Mälardalen region. The facility will enable regional CO₂ capture, storage, and export operations by 2030.
- / **Joseph Gallagher:** Awarded a £50 million contract for trenchless construction on the HyNet project in the UK. The work covers 53 crossings over a 35 km route to install pipelines under roads, rivers and terrain.
- / **Longship:** Norway launched the full CCS value chain "Longship," supported by 22 billion NOK in public funding. It links CO₂ capture from waste and cement plants with shipping and offshore storage in the North Sea.
- / **Motor Oil Hellas:** The IRIS CCUS project will capture over 95% of CO₂ from Motor Oil's refinery in Greece, storing it offshore and using part of it to produce 10,000 t/y of e methanol. Backed by €127 million in EU funding, it aims to cut refinery emissions by 25% and avoid 8.6 Mt CO₂ over 10 years.
- / **Noble:** BP contracted Noble to drill six wells for the Northern Endurance Partnership, which targets storing 4 million tonnes of CO₂ annually. This supports the UK's largest planned offshore CCS project.
- / **Norne:** Norne signed a 30-year agreement with the Port of Aalborg to develop a large-scale CO₂ reception and storage hub in Denmark. The site will handle 15 million tonnes of CO₂ annually and has received EU CEF funding as a Project of Common Interest.
- / **Nuada:** Completed pilot testing of its MOF-VPSC capture unit in Sheffield, UK. The system captures 1 tonne of CO₂ per day and uses 90% less energy without requiring large infrastructure.



- / **RSK Group:** Eight RSK businesses were contracted by United Living Energy to support the £250 million Liverpool Bay CCS project. Their work covers environmental, archaeological and technical services across the 34 km new CO₂ pipeline route and includes over 50 specialists delivering pre-construction and permitting support.
- / **ROSEN Group:** Secured a contract to verify pipeline safety and design for a major CCS project in the UK. The work supports efforts to cut CO₂ emissions in North West England and North Wales by 25%.
- / **SLB Capturi:** The first 1,000 metric tons of CO₂ have been successfully captured, liquefied, and temporarily stored at Heidelberg Materials' cement facility in Brevik, Norway. This first captured CO₂ marks the ramp-up towards the design capacity of 400,000 metric tons of CO₂ captured annually.
- / **SLB OneSubsea & Equinor:** Was awarded the EPC contract for Phase 2 of Northern Lights. The scope includes two subsea CO₂ injection systems, new offshore wells and onshore terminal upgrades, increasing capacity to at least 5 million tCO₂/year.
- / **United Living:** United Living Energy has secured a £250 million three year EPIC contract from Liverpool Bay CCS to build over 34 km of new CO₂ pipeline, linking with 24 km of existing pipe from Ince, Cheshire to Point of Ayr, North Wales. This infrastructure will initially transport 4.5 Mt CO₂ per year, expandable to 10 Mt by the 2030s, and is expected to create about 300 jobs at United Living and another 300 in the supply chain.
- / **Wärtsilä:** Wärtsilä has launched a new onboard carbon capture solution for the maritime industry after successfully installing the world's first full-scale system on Solvang ASA's Clipper Eris, capable of reducing vessel CO₂ emissions by up to 70 %. The system captures all exhaust sources onboard and is cost competitive at €50—70 per tonne of CO₂.

Americas

- / **Aircela:** Demonstrated a working "air-to-fuel" machine in NYC that creates gasoline from CO₂ and hydrogen. The system is modular and suitable for decentralized fossil-free fuel production.
- / **CarbonQuest & Daroga Power:** Launched a carbon capture-as-a-service model in Washington State. The first unit was installed at a beverage plant, capturing CO₂ in real time without upfront costs and selling it for reuse.
- / **Conestoga Energy & Frontier:** Frontier signed an agreement to sell 120,000 tonnes of BECCS credits to Wild Assets, using CO₂ from ethanol plants transported by rail to the Sweetwater storage site in Wyoming.
- / **Deep Sky & Rubicon:** Deep Sky signed a long-term agreement to supply 3,000 tonnes of DAC credits annually to Rubicon from 2025 to 2033. The credits originate from its Alpha facility in Canada and mark Rubicon's entry into the DAC market.



- / **Microsoft, Anew Climate & Aurora Sustainable Lands:** Microsoft signed a deal to purchase 4.8 million tonnes of nature-based carbon removal credits over 10 years, generated through Improved Forest Management (IFM) across 425,000 acres of U.S. forestland. The credits will be developed by Aurora and marketed by Anew Climate, using a tech-enabled verification platform to meet Microsoft's standards for durability and transparency.
- / **SLB:** Introduced "Sequestri", a new portfolio of technologies to help make carbon storage safer, cheaper, and easier to scale. The platform combines digital tools, CO₂-resistant cement, and subsurface equipment to support projects from planning to long-term monitoring.
- / **Svante:** Svante launched the first gigafactory for manufacturing solid sorbent CO₂ capture filters. The Redwood Facility in Burnaby spans 141,000 square feet and is equipped to manufacture enough solid sorbent-based filters to capture up to 10 million tonnes of CO₂ annually.
- / **University of Michigan, UC Davis & UCLA:** Researchers developed a method to convert captured CO₂ into metal oxalates, which can be used as cement precursors. This upcycling approach offers a dual solution for carbon removal and material decarbonisation.

Asia & Oceania

- / **ABL:** Has secured a marine warranty survey contract for BP's Tangguh UCC Project in Papua Barat, Indonesia, supplying services to support the offshore transport and installation of modules. This CCUS project's initial phase aims to sequester approximately 15 million tonnes of CO₂, and ABL's work will underpin safe deployment of onshore compression and enhanced gas recovery infrastructure.
- / **Epson:** Epson is developing a compact carbon capture unit, roughly the size of an office copier. The device captures over 10 kg of CO₂ per day when networked in sets of four and is aimed at small-scale industrial sites, with commercial launch planned for 2028.
- / **JK Cement, IIT Kanpur, JSW Cement, IIT Bombay, Dalmia Cement, CSIR-IIP, IIT Tirupati, IISc, IIT Madras, BITS Pilani Goa & UltraTech Cement:** India's DST has launched five pioneering CCU testbeds in the cement sector under a Public—Private Partnership model to demonstrate industrial-scale carbon capture and utilization. Each testbed targets a different CO₂-to-product route.
- / **JOGMEC & ESDM:** JOGMEC (Japan) and Indonesia's Ministry of Energy (ESDM) launched a joint feasibility study to assess CO₂ storage in depleted offshore gas fields. The initiative supports the creation of a cross-border CCS corridor between Japan and Indonesia and is part of a wider push for bilateral decarbonisation cooperation.
- / **LG Chem & POSCO Holdings:** Have launched a large-scale CCU demonstration project in Pohang, where CO₂ captured from POSCO's steelworks will be converted via LG Chem's DRM technology into carbon monoxide and hydrogen. The project, under South Korea's CCU Mega Project, enters design in 2026, starts facility construction in 2028, and will operate through 2030 — following successful 1,000 ton pilot testing in 2023.



- / **Mitsui, Petronas & MISC:** Formed a joint venture to develop large-scale LCO₂ carriers to support cross-border CCS projects in Asia. A 62,000 m³ ship design has been completed and approved for deployment.
- / **PETROS:** Petroleum Sarawak Bhd (Petros) plans to award contracts this quarter for developing three offshore carbon storage sites as part of its Sarawak Bid Round 2024, aiming to leverage roughly RM100 million invested jointly with investors to evaluate storage potential and build data infrastructure. These sites, covering about 1 billion tonnes of CO₂ storage capacity, are intended to establish Sarawak as a leading CCUS hub in Southeast Asia.
- / **Seatrium & Solvang ASA:** Signed a Letter of Intent to install CCS systems on a new series of gas carriers, building on their successful retrofit of Clipper Eris. The project is set to begin in late 2026 and aims to further decarbonize Solvang's VLGC fleet through full-scale onboard carbon capture.
- / **SMDERI:** Successfully conducted China's first ship-to-ship CO₂ transfer at Yangshan Port, Shanghai. The system reached 80% capture efficiency and transferred 99.9% pure liquefied CO₂ without requiring port infrastructure.



Funding and M&A

Europe & Africa

- / **Aker & SLB Capturi:** Aker acquired a 20% stake in the SLB Capturi joint venture and announced the full liquidation of Aker Carbon Capture ASA. The \$58.5 million transaction strengthens Aker's strategic position in carbon capture while releasing capital for shareholder distribution.
- / **Aramis:** The Netherlands committed \$726 million to the Aramis CCS project after Shell and TotalEnergies reduced their financial support for pipeline infrastructure. This investment ensures the continuation of the open-access CO₂ transport and storage network, aiming to handle up to 22 million tonnes of CO₂ per year by 2030.
- / **BlackRock GIP & Eni:** BlackRock's Global Infrastructure Partners signed an exclusivity agreement to acquire a 49.99% co-controlling stake in Eni's carbon capture business, including assets in the UK, Netherlands, and Italy. The deal supports the development of Eni's Ravenna project, targeting 4 Mt of CO₂ storage per year by 2030, and marks a key step in Eni's satellite strategy to unlock funding for low-carbon infrastructure.
- / **Carbon Centric:** Received a third grant from Enova to evaluate BECCS at a waste-to-energy plant in Norway. The plant could remove 30,000 tonnes of biogenic CO₂ annually.
- / **KN Energies:** The European Union granted €3 million for feasibility studies on a CO₂ export terminal in Klaipėda, Lithuania. The terminal will collect 2.8 million tonnes of CO₂ annually from Baltic industrial emitters.

Americas

- / **1PointFive & JPMorgan:** JPMorgan committed to purchasing 50,000 tonnes of CO₂ credits over the next decade from the STRATOS DAC facility in Texas. The credits will offset JPMorgan's operational emissions and support scale-up of DAC technologies.
- / **Aircapture:** Raised \$50 million in Series A to scale modular DAC systems for deployment at industrial sites. The systems provide high-purity CO₂ for reuse in fuels and industrial applications.
- / **BKV & CIP:** Formed a \$500 million joint venture to expand BKV's U.S. CCUS portfolio, starting with the Barnett Zero and Eagle Ford projects. BKV will operate all JV assets, while Copenhagen Infrastructure Partners holds a 49% stake through its Energy Transition Fund.
- / **Calpine, PPL Corporation, Ørsted, ExxonMobil, Heidelberg Materials, Eastman Chemical, National Cement Company of California, Brimstone Energy, Sublime Systems, Nevada Gold Mines, Kraft Heinz, Diageo, Owens Brockway Glass, Kohler, Nippon Dynawave:** The Department of Energy

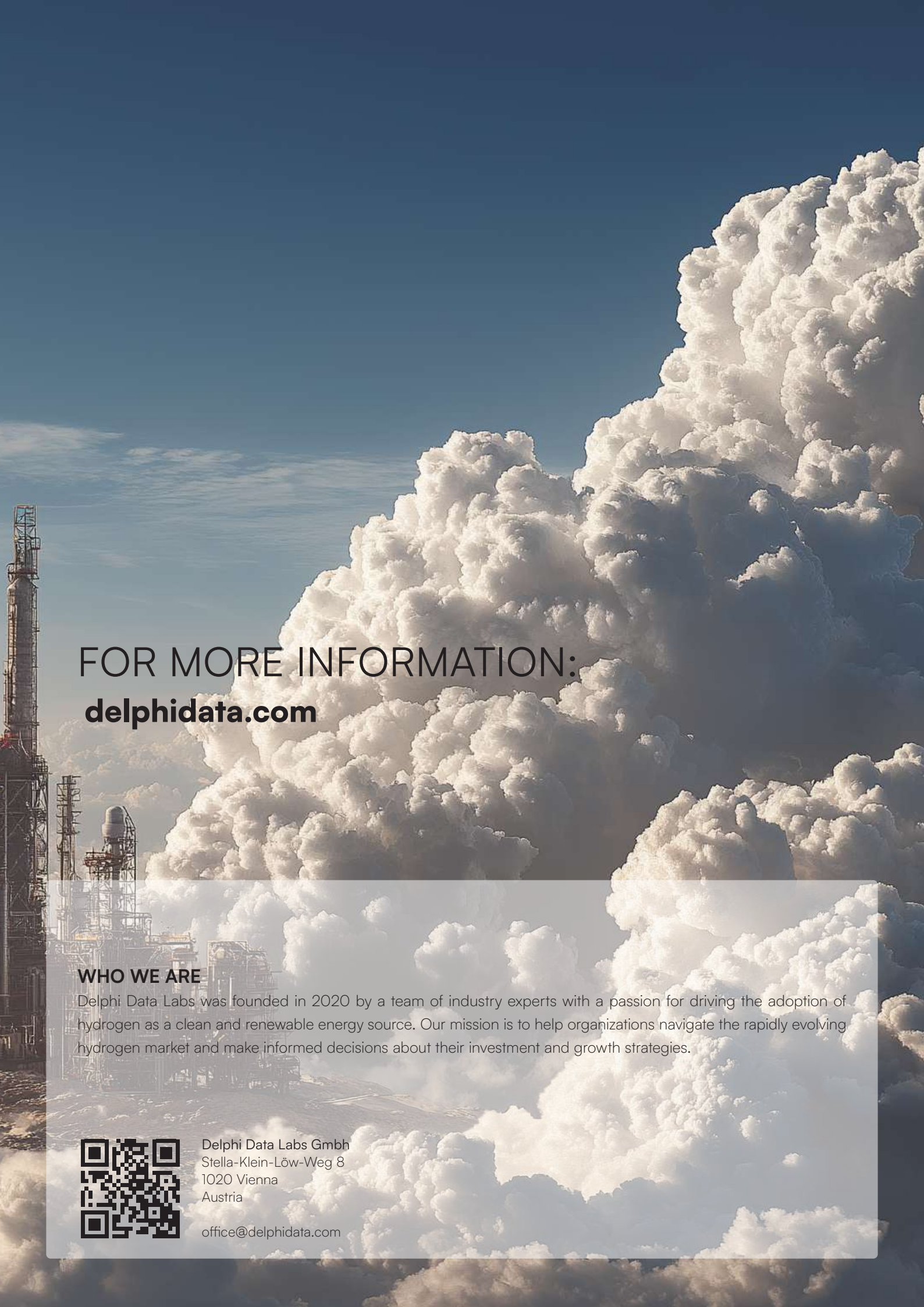


canceled \$3.7 billion in clean energy awards, including major CCS project grants to Calpine, PPL Corp., Ørsted, and ExxonMobil. The decision impacts CCS developments in California and Texas and raises concerns about federal support for carbon management technologies.

- / **Deep Sky:** Received \$5 million from Alberta's government to build a DAC innovation hub in Innisfail, Canada. The site will host up to 10 DAC units, remove 3,000 tonnes of CO₂ per year, and generate 80 construction jobs.
- / **Entropy:** Acquired three carbon storage sites in Alberta and Saskatchewan for \$15 million, supported by Brookfield and the Canada Growth Fund. The Glacier gas plant capture system runs at 90% efficiency and will expand this summer.
- / **JPMorgan & CO280:** Signed a \$90 million CDR offtake deal for 450,000 tonnes of biogenic CO₂ removals from pulp and paper operations. The deal locks in a price below \$200/ton.
- / **Occidental & ADNOC:** Exploring a \$500 million DAC project in South Texas to capture 500,000 tonnes of CO₂ per year. The initiative could become one of the world's largest DAC facilities if completed.
- / **U.S. Energy Corp.:** Acquired 2,300 acres with CO₂ rights and a permitted Class II injection well in Montana's Kevin Dome for \$0.2 million. The acquisition expands U.S. Energy's CCUS infrastructure to support its upcoming industrial gas facility.

Asia & Oceania

- / **Carbon Clean & MODEC:** Signed an agreement to adapt Carbon Clean's CycloneCC tech for offshore FPSOs, targeting 100,000 tonnes CO₂/year initially. A scaled-up version could capture up to 300,000 tonnes annually.



FOR MORE INFORMATION:
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WHO WE ARE

Delphi Data Labs was founded in 2020 by a team of industry experts with a passion for driving the adoption of hydrogen as a clean and renewable energy source. Our mission is to help organizations navigate the rapidly evolving hydrogen market and make informed decisions about their investment and growth strategies.



Delphi Data Labs GmbH
Stella-Klein-Löw-Weg 8
1020 Vienna
Austria

office@delphidata.com